STATE OF NEW HAMPSHIRE

Impairments Added to Categories 4A, 4B, or 4C of the 2016 305(b) Report

May 8, 2017

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
29 HAZEN DRIVE
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May 8, 2017

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Introduction

In accordance with Section 303(d) of the federal Clean Water Act, States must prepare a list of impaired waters that require a Total Maximum Daily Load study every two years (i.e., the 303(d) List). The last approved 303(d) List was prepared by the New Hampshire Department of Environmental Services (NHDES) in 2012. A final of the 2014 Section 303(d) List of impaired waters was submitted to the US Environmental Protection Agency (USEPA) on March 27, 2017. Downloadable copies of the past list as well as the draft 303(d) 2016 list are available on the NHDES website for review (http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm). This document provides a list of all surface waters and parameter combinations that were added as categories 4A, 4B, or 4C impairments on the 2016 305(b) and the reasons why they were added.

Assessment outcomes cover a spectrum from very good to very bad coded as an alpha numeric scale that provides additional distinctions in cases where an impairment exists. In each of the new impairments detailed within this document the 2014 and 2016 assessment status is highlighted applying the categories in the table below.

		Severe Not Supporting, Severe	**Poor** Not Supporting, Marginal	**Likely Bad** Insufficient Information – Potentially Not Supporting	**No Data** No Data	**Likely Good** Insufficient Information – Potentially Full Supporting	**Marginal** Full Support, Marginal	**Good** Full Support, Good
CATEGORY	**Description**							
*Category 2	Meets standards						2-M or 2-OBS	2-G
Category 3	Insufficient Information			3-PNS	3-ND	3-PAS		
Category 4	Does not Meet Standards;							
4A	TMDL Completed	4A-P	4A-M or 4A-T					
4B	Other enforceable measure will correct the issue.	4B-P	4B-M or 4B-T					
4C	Non-pollutant (i.e. exotic weeds)	4C-P	4C-M					
Category 5	TMDL Needed	5-P	5-M or 5-T					

* "Category 1" only exists at the Assessment Unit Level.

Debris/Floatables/Trash

MEADOW BROOK - SACO RIVER - UNNAMED BROOK - BARTLETT BROOK - STONY BROOK (NHRIV600020106-08)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Primary Town	2014	2016
MEADOW BROOK - SACO RIVER - UNNAMED BROOK - BARTLETT BROOK - STONY BROOK	NHRIV600020106-08	Debris/Floatables /Trash	BARTLETT	3-ND	4C-M

Summary

In 2016 NHDES received a complaint regarding a landfill along the shore of the Saco River in Bartlett. NHDES conducted a site visit and confirmed that debris from a closed landfill was eroding along the shore of the river and materials from the landfill were being deposited directly into the Saco River. The debris was present throughout the majority of the 8 foot tall bank profile. During the site visit debris was actively falling into the river. The bank material is very unstable. This erosion and deposition of debris will continue unless the bank is stabilized. This section of the Saco River is a popular recreation area. The metal and glass debris lodged between rocks and on the bottom of the river poses a threat to swimming, boating and fishing.

Relevant Water Quality Standards

Env-Wq 1703.03 General Water Quality Criteria.

(c) Unless otherwise specifically allowed by a statute, rule, order, or permit, the following physical, chemical, and biological criteria shall apply to all surface waters:

(1) All surface waters shall be free from substances in kind or quantity that:

a. Settle to form harmful benthic deposits;

b. Float as foam, debris, scum or other visible substances;

c. Produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated uses;

d. Result in the dominance of nuisance species; or

e. Interfere with recreational activities;

Impairments (referenced from 2014 CALM)

1. **Primary Contact Recreation**

   Indicator 5: Color, foam, debris, scum, slicks, odors, surface floating solids

   The General Water Quality Criteria (Env-Wq 1703.03) require that surface waters be free of substances which: float as foam, debris, or scum; produce odor, color, taste, or turbidity making the water unsuitable for the designated use; or interfere with recreational activities (Env-Wq 1703.03 (c)(1) b, c, & e). Two common examples of scums are those produced by cyanobacteria blooms, which produce a human health risk and iron scums that may be the result on landfill leachate or fill activities.

   FS: The surface water does not contain color, foam, debris, scum, slicks, odors, and/or surface floating solids in amounts and for durations that significantly interfere with the primary contact recreational use, unless naturally occurring.

   NS: The surface water contains color, foam, debris, scum, slicks, odors and/or surface floating solids in significant amounts and for durations that significantly interfere with the primary contact recreational use, and they are not naturally occurring.

Figure 1. Location of landfill and impacted shoreline -71.278191, 44.080262 Bartlett, NH.

Figure 2. Southern shore of the Saco River. This is the section of the river where the bank is eroding and material from the landfill is eroding into the river. The landfill comprises approximately 300 feet of the shoreline.

Figure 3. The eroding bank of the river showing materials from the landfill. The bank is very unstable – and

undercut.

Figure 4. Example of a large piece of metal debris within the bank.

Figure 5. Metal and glass debris embedded in the eroding shoreline. The tree roots depict how undercut and unstable the bank has become.

Non-Native Aquatic Plants

Exotic macrophytes are non-native, fast growing aquatic plants, which can quickly dominate and choke out native aquatic plant growth in the surface water. Examples of exotic macrophytes include variable milfoil (Myriophyllum heterophyllum), Eurasian milfoil (Myriophyllum spicatum), fanwort (Cabomba caroliniana) and water chestnut (Trapa natans). Such infestations are in violation of Env-Wq 1703.19, which states that surface waters shall support and maintain a balanced, integrated and adaptive community of organisms having a species composition, diversity and functional organization comparable to that of similar natural habitats of a region.

Assessment Category 4C represents cases where a waterbody is impaired or threatened for one or more designated uses but does not require the development of a TMDL because the impairment is not caused by a pollutant.

UPPER SUNCOOK POND (NHLAK700060402-10-02)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Primary Town	2014	2016
UPPER SUNCOOK POND	NHLAK700060402-10-02	Non-Native Aquatic Plants		3-PNS	4C-M

2016: Variable milfoil growth present in scattered patches in the lake. Managed by hand removal in 2015 and 2016.

LOWER SUNCOOK POND (NHLAK700060402-10-01)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Primary Town	2014	2016
LOWER SUNCOOK POND	NHLAK700060402-10-01	Non-Native Aquatic Plants		3-PNS	4C-M

2016: Variable milfoil growth present in scattered patches in the lake. Required active management by hand removal in 2015 and 2016.

CROOKED POND (NHLAK700060202-04)

Assessment Unit Name	Assessment Unit ID	Parameter Name	Primary Town	2014	2016
CROOKED POND	NHLAK700060202-04	Non-Native Aquatic Plants		3-ND	4C-M

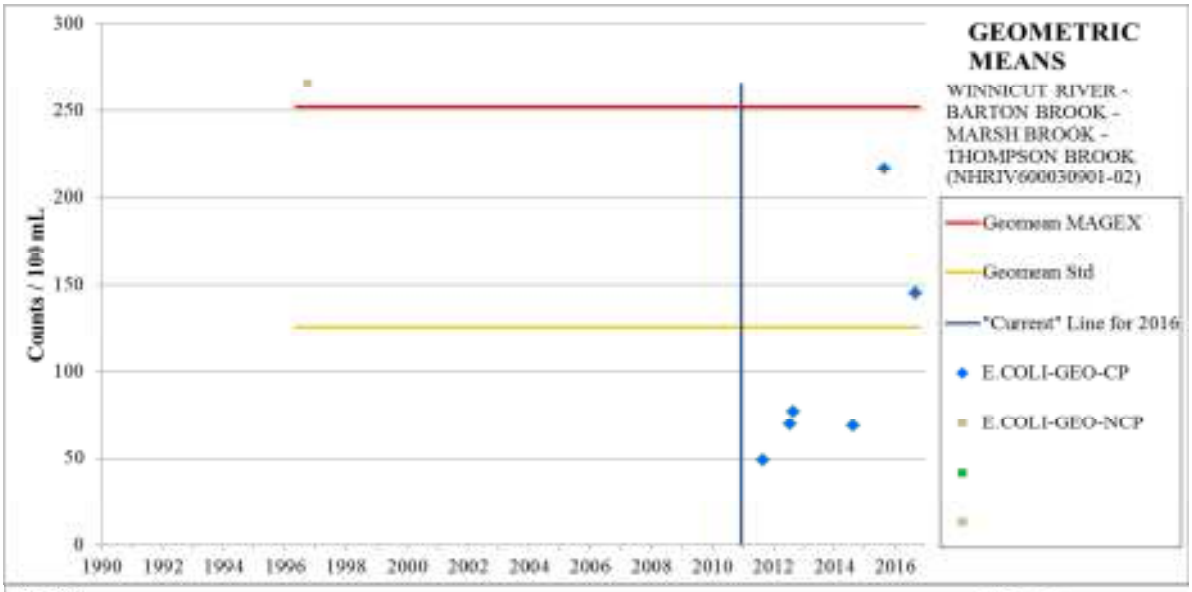
2016: Milfoil infestation discovered in 2016. No control actions implemented.

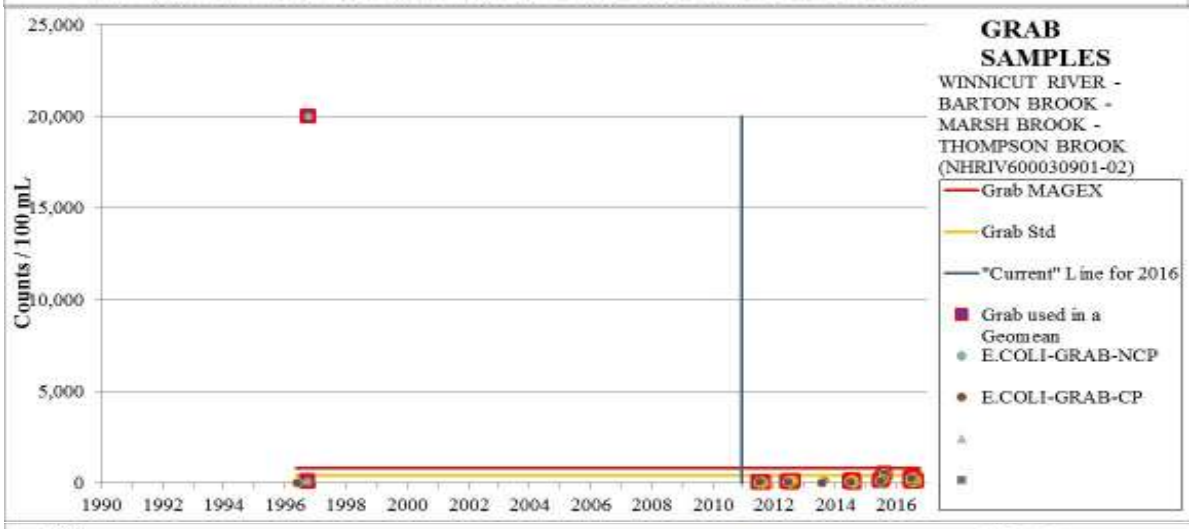
Bacteria – Non-Beaches

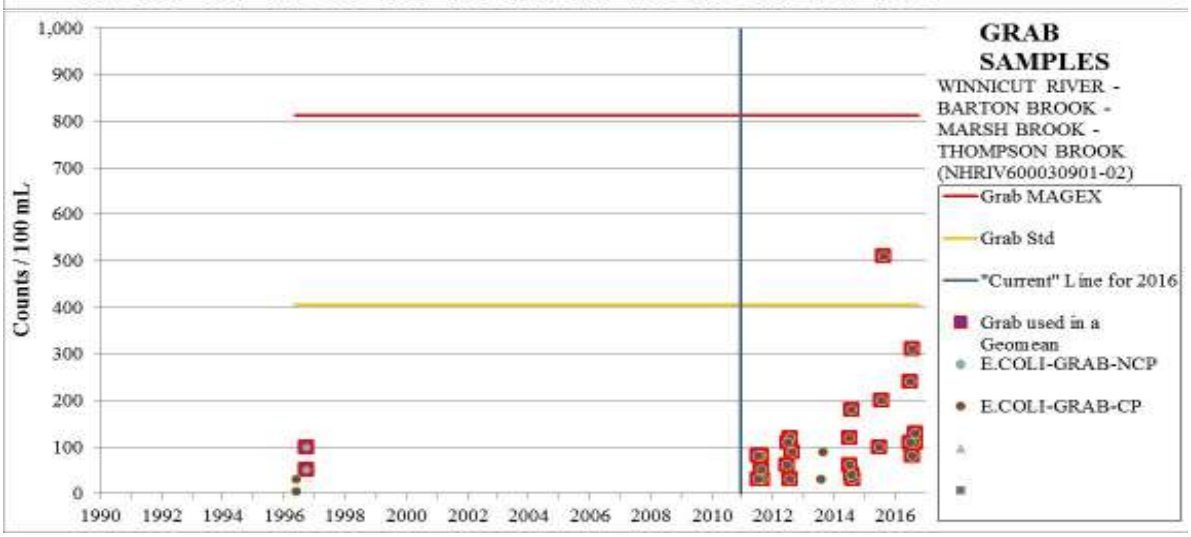
WINNICUT RIVER - BARTON BROOK - MARSH BROOK - THOMPSON BROOK (NHRIV600030901-02)

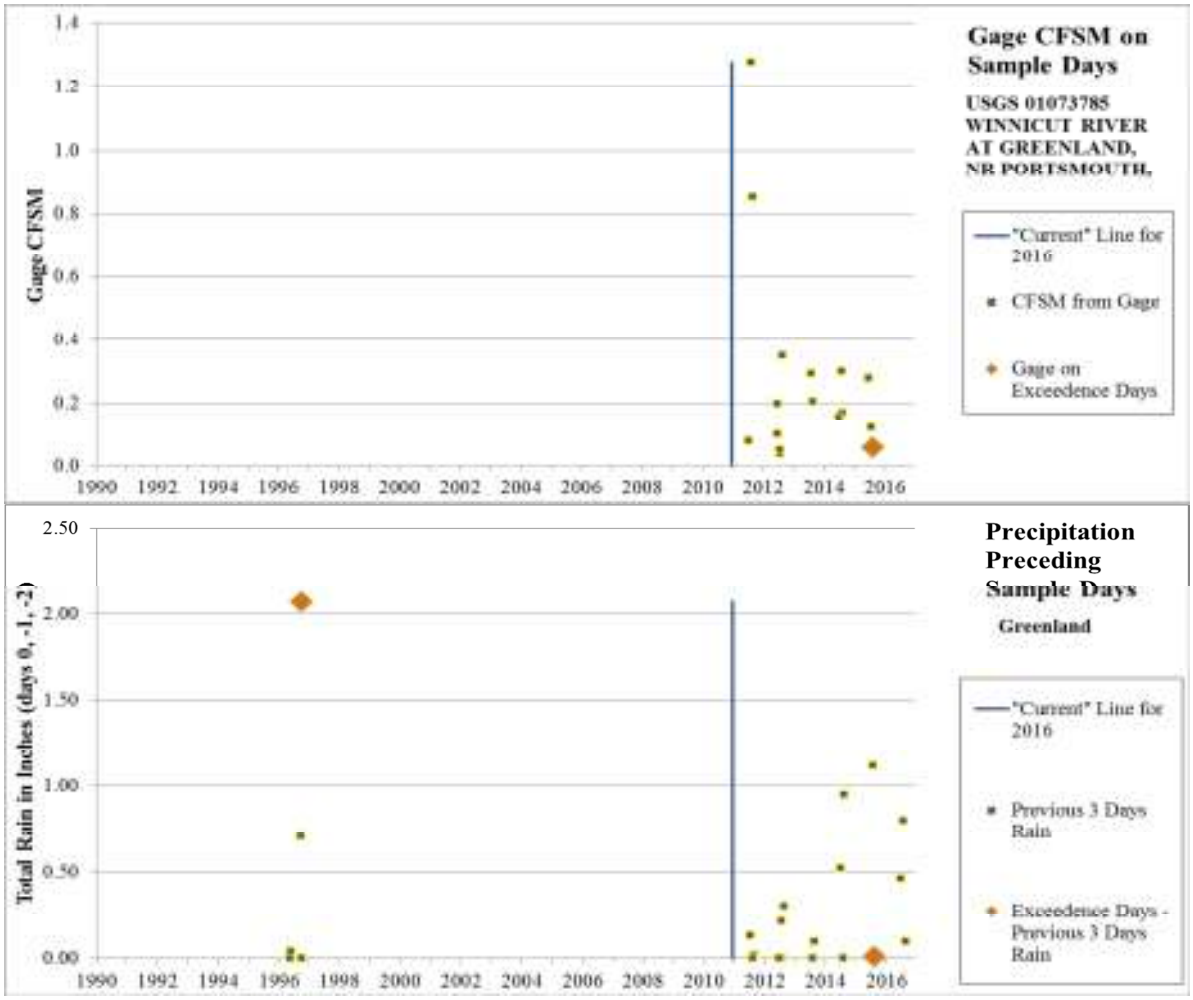
Assessment Unit Name	Assessment Unit ID	Parameter Name	Primary Town	2014	2016
WINNICUT RIVER - BARTON BROOK - MARSH BROOK - THOMPSON BROOK	NHRIV600030901-02	*Escherichia coli*	Greenland	2-G	4A-M

Two out of six geometric means in the current assessment period are above the bacteria standard. One high grab sample over the standard relates to low flow and no rainfall at station 11-WNC. Additional stations sampled that were calculated into the geometric mean are 02-TBK and 05-WNC. Grab sample results appear to slowly be increasing. Winnicut River (NHRIV600030901-02) has been changed from assessment category 2-G to 4A-M. TMDL ID 39272 September 21, 2010.


GEOMETRIC MEANS
WINNICUT RIVER - BARTON BROOK - MARSH BROOK - THOMPSON BROOK (NHRIV600030901-02)
Counts / 100 mL
Geomean MAGEX
Geomean Std
"Current" Line for 2016
E.COLI-GEO-CP
E.COLI-GEO-NCP


GRAB SAMPLES
WINNICUT RIVER - BARTON BROOK - MARSH BROOK - THOMPSON BROOK (NHRIV600030901-02)
Counts / 100 mL
Grab MAGEX
Grab Std
"Current" Line for 2016
Grab used in a Geomean
E.COLI-GRAB-NCP
E.COLI-GRAB-CP


GRAB SAMPLES
WINNICUT RIVER - BARTON BROOK - MARSH BROOK - THOMPSON BROOK (NHRIV600030901-02)
Counts / 100 mL
Grab MAGEX
Grab Std
"Current" Line for 2016
Grab used in a Geomean
E.COLI-GRAB-NCP
E.COLI-GRAB-CP



Notes:

E. COLI-GEO-CP = *Escherchia coli* geometric mean calculated from samples collected during the summer critical period.

E. COLI -GEO-NCP = *Escherchia coli* geometric mean calculated from samples collected outside the summer critical period.

E. COLI -GRAB-CP = *Escherchia coli* grab samples collected during the summer critical period.

E. COLI -GRAB-NCP = *Escherchia coli* grab samples collected outside the summer critical period.

"Current" Line for 2016 – Per the methodology outlined in the CALM, all data from this referenced data is considered "current" unless. Available older data is provided for context. See the 2016 CALM for additional details.